

[CEPH125]: Red Hat Ceph Storage Architecture and Administration

Length : 5 Days
Delivery Method : Instructor-led (Classroom)

Course Overview

Red Hat Ceph Storage Architecture and Administration (CEPH125) is designed for storage administrators or cloud operators who intend to deploy Red Hat Ceph Storage to their production data center environment or OpenStack installation.

Course content summary

- Deploying and managing a Red Hat Ceph Storage cluster on commodity servers using Ansible
- Creating, expanding, and controlling access to storage pools provided by the Ceph cluster
- Accessing Red Hat Ceph Storage from clients using object, block, and file-based methods
- Analyzing and tuning Red Hat Ceph Storage performance
- Integrating OpenStack image, object, block, and file storage with a Red Hat Ceph Storage cluster

Audience Profile

This course is intended for storage administrators, cloud operators, and cloud developers who want to learn how to deploy and manage Red Hat Ceph Storage for use by servers in an enterprise data center or within a Red Hat OpenStack Platform environment.

After Course Completion

Red Hat Certified Specialist in Ceph Storage Administration Exam (EX125)

Pre-Requisites

- Be certified as a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent experience
- Some experience with storage administration is recommended, but not required

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Course Outline

Module 1: Prepare for Red Hat Ceph Storage

Lessons

- Identify challenges faced by traditional storage and explain how Ceph addresses them

Module 2: Deploy Red Hat Ceph Storage

Lessons

- Deploy and expand the storage capacity of a new Red Hat Ceph Storage cluster

Module 3: Configure Red Hat Ceph Storage

Lessons

- Manage how Ceph stores data with pools, configure Red Hat Ceph Storage using its configuration file, and configure users for Ceph clients that may access the Ceph storage cluster

Module 4: Provide block storage with RBD

Lessons

- Configure Ceph to provide block storage for clients by using RADOS block devices (RBDs)

Module 5: Provide object storage with RADOSGW

Lessons

- Configure Ceph to provide object storage for clients by using a RADOS gateway (RADOSGW or RGW)

Module 6: Provide file storage with CephFS

Lessons

- Configure Ceph to provide file storage for clients using the Ceph Filesystem (CephFS)

Module 7: Configure the CRUSH map

Lessons

- Adjust the CRUSH map—which controls how data is stored, replicated, and distributed across OSDs in the Ceph cluster—in order to optimize resiliency and performance

Module 8: Manage and update the cluster maps

Lessons

- Explain how the monitor and OSD maps are managed in order to maintain cluster operation, quorum, and consistency

Module 9: Manage a Red Hat Ceph Storage cluster

Lessons

- Check Ceph cluster status, troubleshoot Ceph daemon problems, and upgrade Ceph software

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Module 10: Tune and troubleshoot Red Hat Ceph Storage

Lessons

- Identify the key performance metrics for a Ceph cluster and use them to help tune and troubleshoot the operating system and Ceph software for optimal performance

Module 11: Integrate Red Hat Ceph Storage with OpenStack

Lessons

- Configure an OpenStack cloud to use Ceph to provide image, block, object, and file storage

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